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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,358

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Hyun Shik Cho

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11/13/2006

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EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/772,358

Applicant(s)

CHO ET AL.

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on RCE, filed on 24 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11 and 15 is/are allowed.
- 6) ☒ Claim(s) 1, 3-7 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 August 2006 has been entered.

Amendment, filed on 26 July has been considered and entered.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature of "projection is provided between a yoke and the yoke line portion" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

Art Unit: 2879

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig 4a and Fig 4b do not show # 25, 22 and 23, as described in paragraph 34. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-7 & 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended claim 1 recites that "thickness projection in the body portion of the funnel is provided between a yoke and the Yoke line plane.

In the specification applicant stated that the projection is formed on the boundary line between the body and yoke portion (23) of the funnel.

Further applicant defines yoke line plane 25, which includes a boundary line between the body 22 and yoke 23 portions of the funnel. Thus projection is on the yoke line plane. Applicant does not ascertain the position of the yoke, however, conventionally yoke is positioned in the yoke portion of the funnel, so in this case yoke is extended through the region 23. Thus projection cannot be placed between yoke and yoke line plane, since there is no space between yoke and yoke line plane.

Neither drawings nor the specification provide support for "projection being provided between yoke and the yoke line plane".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites that thickness projection is provided between yoke and yoke line plane, such limitation renders the claim indefinite, since yoke line plane defines the boundary of the yoke, thus it is not clear how projection can be disposed between yoke and yoke line plane.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6 & 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Swank et al. (US 5155411).

Regarding claim 1, Swank et al. disclose a cathode ray tube (Fig 1) comprising a panel (faceplate panel 12) having phosphor screen (22) on the inner surface thereof, a funnel 15, joined to the panel 12 at a seal line plane (21 of Fig 1) and having a body portion, a yoke portion (from one end of 34 to the other end), yoke line plane (along the vertical line drawn through the end of 34, end close to the faceplate, of the yoke 30) and a neck portion 14, an electron gun 26 mounted to the neck portion of the funnel wherein a projection (42) is provided between a yoke and the yoke line plane (shown clearly in Fig 2 & 3).

Regarding claim 3, Swank discloses that a maximum thickness and a minimum thickness of the projection is about 2 (see Fig 2 & Fig 3), this satisfies the equation of claim 3.

Regarding claim 4, Swank et al. disclose that the thickness of the projection is greater than the thickness of the body portion 15 (see Fig 3).

Regarding claims 5 & 6, Swank et al. disclose that the thickness projection of the projection 42 have stairs (steps, 46, 52) having curvature (see Fig 2 & Fig 3).

Regarding claim 12, Swank et al. disclose that a deflection angle of the electron beams is no less than or equal to 100 degrees (see Lines 15-18 of column 1).

Regarding claims 13 & 14, Swank discloses that a cross section of the neck portion 14 is shaped non-circular (see Fig 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al. as applied to claim 1 above, further in view of Sugawara et al. (US2002/0185959).

Regarding claim 7 Swank et al. discloses all the limitations of claim 7 except for the thickness of the funnel except for the projection becomes gradually greater from the neck portion to the seal line plane.

However, Sugawara et al. teach that for a flat panel CRT, panel thickness is much greater at the periphery where it is joined to the funnel compared to the thickness of the panel at the center of the panel, and in order to reduce the thermal stress developed for this thickness variation funnel thickness is much greater near the seal line and gradually decreases near the neck of the funnel to make the CRT light weight (see Fig 1, see paragraph 0012-0015), such structure of panel and funnel produces flat screen while reduces thermal stress to prevent fracture while making the funnel thinner.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the thickness of the funnel as discloses by Sugawara et al. in the device of Swank et al. since this will provide a flat CRT having reduced thermal stress in glass envelope of the CRT.

#### ***Allowable Subject Matter***

Claims 8-11 & 15 are allowed over the prior art of record.  
Reasons for allowance of the above claims are presented in previous office action.

#### ***Response to Arguments***

Applicant's arguments filed on 7/26/06 have been fully considered but they are not persuasive.

Applicant contends that Swank's body of glass is not located between yoke and yoke line plane, but is adjacent to Swank's yoke line plane.

However, examiner respectfully disagrees.



Art Unit: 2879

A yoke line means a line in which deflection yoke of a CRT, deflecting an electron beam can be placed on the body of CRT toward the panel to the utmost. The yoke line plane means a vertical plane which is perpendicular to the deflection axis X including the yoke.

In Swank's case, the utmost point of the yoke towards panel is the end of 34 of Fig 2, towards panel (see Fig 2) and the yoke line plane is the vertical plane containing that line, thus a portion of the glass extension 42 of Swank is between yoke 30 and the yoke line plan, which is the vertical line through the extreme right end of 34 (see Fig 3).

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*K. Guharay*  
Karabi Guharay  
Primary Examiner  
Art Unit 2879

11/7/06